

### REMARKS/ARGUMENTS

In view of the following remarks, the applicants respectfully submit that the pending claims are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicants will now address each of the issues raised in the outstanding Office Action. First, however, the undersigned would like to thank Examiner Barot for courtesies extended during a telephone interview on February 28, 2006 ("the telephone interview").

### Objections

Claims 6-14, 18 and 26-30 were objected to as depending from a rejected base claim, but were found to include allowable subject matter.

The title stands objected to as not being descriptive. The title was amended in the prior amendment filed on August 19, 2005 ("the prior amendment") to more clearly indicate an embodiment of the present invention to which at least some of the claims are directed. During the telephone interview, the

undersigned noted these amendments and the remarks on pages 13 and 14. During the telephone interview, Examiner Barot reconsidered this objection and indicated that the title was acceptable.

The Abstract stands objected to as not containing proper content, language and format. The abstract was amended in the prior amendment. During the telephone interview, the undersigned noted these amendments and the remarks on pages 13 and 14. During the telephone interview, Examiner Barot reconsidered this objection and indicated that the abstract was acceptable.

#### **Rejections under 35 U.S.C. § 102**

Claims 1-3, 15-17, 19-20, 25, and 31-34 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,745,243 ("the Squire patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

During the telephone interview, claim 1 was discussed with respect to the Squire patent. "Path-centric information" recited in act (b) was discussed, as were the examples of "path centric information" recited in claims 16 and 17 (and claims 28 and 29). Examiner Barot requested clarification of this term. During the telephone interview, the undersigned noted that the term "path centric information" is described in the specification. In Phillips v. AWH Corp., 75 U.S.P.Q.2d 1321 (Fed. Cir. July 12, 2005) (en

banc) (referred to as "Phillips v. AWH" below), the Court of Appeals for the Federal Circuit ("the CAFC") stated:

the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term."

Id., at 1327, quoting from Vitronics Corp. v. Conceptiontronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Thus, various areas of the specification are referenced below.

The specification states:

Often, forwarding devices such as routers are equipped to sample packets, or at least header information in such packets, accepted and forwarded. Unfortunately, however, such samples often will not include information used by traffic analysis tools. ***For example, such traffic analysis tools will often want network and inter-network information (also referred to as "path-centric information") not included in such samples. Accordingly, there is a need to associate such samples with information used by traffic analysis tools.*** Given the potentially large number of packets, such techniques for associating the samples with path-centric information should be efficient, both in terms of processing time and storage. Moreover, it may be desirable to provide various parameters to be analyzed by traffic analysis tools in a convenient form. The generation of such parameters in a convenient form should be efficient,

both in terms of processing time and storage. [Emphasis added.]

Page 4, lines 4-16. The specification further states:

**The path centric information may include an origin autonomous system and a peer autonomous system, or an autonomous system path.** The part of the sample(s) used as a search key may be an internet protocol prefix, a source address, and/or a destination address. [Emphasis added.]

Page 5, lines 6-9. The specification also states:

The present invention may be used to (i) associate packet samples with **path-centric information (e.g., autonomous system path information)**, (ii) aggregate information from, and/or associated with, the samples, and (iii) export such aggregated information for use by a traffic (flow) analysis tool(s). **The network being analyzed may be an autonomous system within an inter-network**, such as that 100 depicted in Figure 1 and introduced in § 1.2.1 above. [Emphasis added.]

Page 8, lines 7-12. The specification further states:

Recall that **traffic (e.g., flow) analysis operation(s) 290 may want further information (e.g., path-centric information) that will not be found in the samples.** Accordingly, traffic (flow) aggregation operation(s) 270 may operate to (i) associate the samples with further information, and (ii) aggregate information from, and/or associated with, the samples, thereby generating traffic (e.g., flow)

information 285 to be used by the  
traffic (flow) analysis operation 290.  
[Emphasis added.]

Page 10, lines 20-25.

In view of the foregoing, "path-centric information" may be network and inter-network information such as, for example, an origin autonomous system and a peer autonomous system, or an autonomous system path.

Processing information on a path-centric basis is useful. For example, the specification states:

Recall that different network service providers (e.g., ISPs) may own and/or manage various autonomous systems (ASs). ***Such providers want to analyze traffic within their network, traffic entering their network from another network (another AS), and traffic leaving their network to another network (another AS). Such traffic analysis may be used when planning capacity, when defining a hierarchical network within an autonomous system, for billing and accounting, and for developing or updating arrangements with the other network service providers (such as peering agreements for example).***  
[Emphasis added.]

Page 3, lines 11-18.

Thus, path-centric information might be different from packet-centric information. For example, the specification states:

Referring back to decision  
branch point 715, if a matching item

(record) is not found, then using **packet-centric information** (e.g., source and destination IP addresses), **path-centric information** (e.g., AS path) may be determined for the sample as indicated by block 740. [Emphasis added.]

Page 15, lines 21-24. The specification also states:

As can be appreciated, the information in Figures 9-13 can be thought of as **packet-centric information, since it is inherent from the packet samples**. On the other hand, the information in Figure 14 can be [thought] of as **path-centric information, since it has to do with the known and/or expected path of the packet through the network(s)**. [Emphasis added.]

Page 17, lines 5-9. Thus, in some cases, path-centric information might not be included in a packet (or addressed data) sample. In such cases, it might be determined from a packet (or addressed data sample).

As the undersigned explained during the telephone interview, dependent claims 16 and 17 (and 28 and 29) further define "path-centric information". Similarly, dependent claim 19 further defines the term "traffic metric" and dependent claim 20 further defines the term "traffic parameter."

During the telephone interview, Examiner Barot indicated the term "path-centric information" is broad. Even assuming, arguendo, that this is true, as the undersigned explained during the telephone interview, this term is different from the session information (OSI

Layer 5 information) processed in the Squire patent, and is further defined in dependent claims 16, 17, 28 and 29. Before addressing at least some of the patentable features of these claims, the Squire patent is introduced.

The Squire patent concerns the use of network caching and load balancing to better manage network bandwidth. (See, e.g., column 1, lines 37-40.) It notes that in prior art network caches, discriminating network traffic at the layer 3 and/or layer 4 level can overwhelm the processing capability of such network caches. (See, e.g., column 2, lines 29-37.) The Squire patent further notes that load balancing using layer 3 and/or layer 4 information for traffic discrimination has similar problems. (See, e.g., column 2, lines 38 and 39.)

To address these problems found in prior caching and load balancing techniques, the Squire patent proposes to use network session information, identified by a network address translator, to select network traffic to be cached. (See, e.g., column 3, lines 1-16.) It is known that the Session Layer is layer five of the seven layer Open Systems Interconnection ("OSI") reference model. The Session Layer responds to service requests from the presentation layer (layer 6) and issues service requests to the transport layer (layer 4). The Session layer provides the mechanism for managing the dialogue between end-user application processes. For example, the session layer might be used to allow a user to log into a remote timesharing system, transfer a file between two machines, manage dialog control, manage tokens, provide synchronization, etc. (See, e.g., A. S. Tanenbaum,

Computer Networks, 3<sup>rd</sup> Ed., pp. 32 and 33 (1996 Prentice Hall, Upper Saddle River, NJ).

Independent claims 1, 25 and 32 are not anticipated by the Squire patent because the Squire patent does not teach acts of (or means for) determining ***path-centric information*** based on an accepted sample(s), and ***adjusting a traffic metric of a traffic parameter based on the determined path-centric information***. Examples of path-centric information provided in the specification of the present application include an origin autonomous system ("AS"), a peer AS, and an AS path. Examples of a traffic metric provided in the specification of the present application include a byte count and a packet count. Examples of traffic parameters provided in the specification of the present application include a pair of source and destination addresses, a pair of source and destination ports, and a pair of ASes.

The Examiner cites Figures 4 and 6, as well as column 6, line 42 through column 7, line 8, and column 9, lines 31-57 of the Squire patent as teaching these acts (or means). (See, e.g., Paper No. 20051114, page 3.) Figure 4 of the Squire patent illustrates of a datagram used by a network cache/load balancing device, and in particular session information 402 used to identify/discriminate packets for caching and load balancing. This is also described in the cited portions of columns 6 and 7. In particular, as indicated by blocks 604 and 606 of Figure 6, the session information is identified and used to determine whether or not the datagram is of interest. If so, if the datagram is a request, it can be determined whether the request can be



satisfied with locally cached information (Block 610), and if the datagram is not a request (e.g., if it's a response), it can be determined whether the response should be cached (Block 616). In either case, the datagram can then be routed in accordance with a network management strategy. (See, e.g., Block 612.) This is also described in the cited portion of column 9. Column 6, lines 59-62 indicate that the Session Layer information may include HTTP resource identifiers, file transfer protocol (FTP) resource identifies, Gopher service names, Archie services, etc.

None of the foregoing concerns determining path-centric information such as an origin AS, a peer AS, or an AS path for example. Briefly stated, the session information is not path-centric information. Note that ASes are known in network communications as subnetworks that are connected together. (See, e.g., A. S. Tanenbaum, Computer Networks, 3<sup>rd</sup> Ed., p. 412 (1996 Prentice Hall, Upper Saddle River, NJ). Further, the specification states:

an internet 100 may be viewed as a number of sub-networks or "autonomous systems" (also referred to as "AS") 110, 150. Different entities (such as Internet service providers ("ISPs")) may own and/or operate different autonomous systems. A routing algorithm for use within an autonomous system is called an "interior gateway protocol" ("IGP"), while a routing algorithm for use between autonomous systems is called an "exterior gateway protocol" ("EGP"). Known exterior gateway protocols include the "border gateway protocol" ("BGP").

Page 2, lines 10-18. To reiterate, the Squire patent concerns Session Layer information, which is used to establish protocols between two devices, not path-centric information, which concerns ASes through which data travels.

Further, the Squire patent does not concern adjusting a traffic metric of a traffic parameter based on the determined path-centric information. Rather, it concerns using Session Layer information to determine whether to look for previously cached information if a request is received, and to determine whether to cache information from a response. This has nothing to do with adjusting a traffic metric (e.g., a byte count, a packet count, etc.) of a traffic parameter (e.g., a pair of source and destination addresses, a pair of source and destination ports, a pair of ASes, etc.).

Therefore, independent claims 1, 25 and 32 are not anticipated by the Squire patent for at least the foregoing reasons. Since claims 2, 3, 15-17, 19 and 20 depend from claim 1, since claim 31 depends from claim 25, and since claims 33 and 34 depend from claim 32, these claims are similarly not anticipated by the Squire patent.

Further, dependent claims 16 and 17 specify that the path-centric information, upon which an adjustment to a traffic metric of a traffic parameter is based, includes an origin AS and a peer AS, or an AS path. The Examiner contends that Figure 1 and column 4, line 13 through column 5, line 61 of the Squire patent teaches these features. (See, e.g., Paper No. 20051114, page 4.) The cited sections of the Squire patent mainly describe a communications network -- they don't mention ASes.

Although ASes are known concepts in network communications, there is nothing in the Squire patent that teaches adjusting a traffic metric of a traffic parameter based on (A) an origin AS and a peer AS, or (B) an AS path. Accordingly, these claims are not anticipated by the Squire patent for at least this additional reason.

Furthermore, dependent claim 19 specifies that the traffic metric of the traffic parameter adjusted on the basis of the path-centric information is a byte count and/or a packet count. The Examiner cites column 5, line 61 through column 6, line 5 as teaching this feature. (See, e.g., Paper No. 20051114, page 4.) The cited section of the Squire patent simply notes that a packet may include a number of bytes of data which is dependent upon the communications resources of a client, an origin server, and a network protocol used by the client and server. This does not teach adjusting a byte count or a packet count of a traffic parameter based on path-centric information in a sample. It seems that the Examiner's argument is that controlling a byte count of a packet corresponds to the claimed adjusting a traffic metric of a traffic parameter. However, this is done on the basis of the two devices (i.e., the origin server and the client) and the protocol that they use, and has nothing to do with a path-centric information. Accordingly, claim 19 is not anticipated by the Squire patent for at least this additional reason.

### Rejections under 35 U.S.C. § 103

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Squire patent in view of U.S. Patent No. 6,771,637 ("the Suzuki patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Examiner concedes that the Squire patent does not teach that an act of determining path-centric information based on an accepted sample includes using at least a part of the sample as a search key to find an item with a closest matching key. The Examiner relies on the Suzuki patent as teaching this admitted deficiency of the Squire patent. However, even assuming, *arguendo*, that the Suzuki patent includes such a teaching, and further assuming, *arguendo*, that one skilled in the art would not have been motivated to combine these references as proposed by the Examiner, the purported teachings of the Suzuki patent would not compensate for the deficiencies of the Squire patent with respect to claim 1, addressed above. That is, the purported teachings of the Suzuki patent neither teach, nor suggest, acts of determining ***path-centric information*** based on an accepted sample(s), and ***adjusting a traffic metric of a traffic parameter based on the determined path-centric information***. Accordingly, claims 4 and 5 are not rendered obvious by the Squire and Suzuki patents for at least this reason.

**Amendment**


The amendment to the specification corrects a typographical error.

**Conclusion**

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

February 28, 2006

  
\_\_\_\_\_  
John C. Pokotylo, Attorney  
Reg. No. 36,242  
Tel.: (732) 542-9070

**CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)**

I hereby certify that this correspondence is being deposited on **February 28, 2006** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
\_\_\_\_\_  
John C. Pokotylo

36,242  
Reg. No.